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XXXIII. *An Account of the Eclipſe predicted by* Thales; *by the Rev.* William Stukeley, *M. D.*

Read May 3, 1753. WHILST I lived in Lincolnſhire, I was viſited by Mr. Edmund Weaver, who was a very uncommon genius; particularly he had made himſelf a great maſter of aſtronomy, and was ſcarcely to be accounted the ſecond in the kingdom. He compoſed complete tables of the celeſtial motions, which he was very much ſolicited to publiſh; but the world waited for Dr. Halley's.

Theſe tables were ſhewn to Dr. Halley: we may have a notion of their value from what the doctor ſaid thereupon, that he ſuſpected, Mr. Weaver had ſeen his tables. He was well known to, and much eſteemed, by Mr. Martin Folkes. He taught himſelf writing, arithmetic, algebra, ſome ſublime parts of the mathematics, the whole art and ſcience of aſtronomy; as his annual publications ſufficiently evince. He was an inſtance of great merit in obſcurity: he died in a little houſe of his own, ſoon after I removed to London, Dec. 27, 1748. and was buried at Cathorp near Grantham.

Thus much I thought proper to commemorate of this worthy perſon. An intimacy grew up between him and myſelf during that twenty years I lived in the country, nor was it unfruitful; for we often agreeably entertained ourſelves in calculations of aſtronomy, with a view to antient hiſtory. One of them I here produce before the Society, done many years

years ago; but, upon hearing that read on the ſame ſubject from Mr. Coſtard, it put me in mind of it, and I hope it will be an acceptable illuſtration and confirmation of that famous piece of hiſtory, the eclipſe predicted by Thales the Mileſian; which happened in the 603 year before the Chriſtian æra.

I ſhall recite the hiſtory of this matter, as conciſely as I can, from the hiſtorians and writers, tho' they all miſtake the year. But this ſhews the admirable uſe to be made of aſtronomy in aſcertaining matters of hiſtory.

The great king of Babylon, Nebuchadnezzar, was now buſy in executing the vengeance, which God had made him the inſtrument of, upon the nation of the Jews, for their incorrigible wickedneſs and folly. Their king Jehoiachin was carried away captive to Babylon, and kept in priſon 37 years together, till he died.

At this time there was a ſharp war between the Medes and Lydians, of which Herodotus give us an account. Halyattes, father of the famous Crœſus, was now king of the Lydians.

After the Medes had conquer'd all the upper or northern part of Aſia, from the old poſſeſſors the Scythians, they again extended their borders to the river Halys in Leſſer Aſia, the boundary between Cappadocia and Armenia, or between the Lydians and Medes. It was not long before there happened a war between theſe nations, which continued for five years together, with various ſucceſs.

In the ſixth year they engaged each other, with the utmoſt of their ſtrength; intending to make that battle deciſive of the quarrel, that was between them:

but, in the midſt of the engagement, whilſt the fortune of the day ſeem'd to hang in an equal balance, there happened a total eclipſe of the ſun, which overſpread both armies with a horrible darkneſs; inſomuch that, being affrighted at ſuch a critical judgment of heaven (as they thought it), both ſides put up their ſwords; and they agreed to refer the controverſy between them to two arbitrators. Halyattes, king of Lydia, choſe Sienneſis, king of Cilicia; Cyaxares, the Median monarch, choſe Nebuchadnezzar, now buſy in leading the Jews into captivity.

Nebuchadnezzar is by Herodotus called Libynetus. It ſeems to me, that the letter N, in the beginning of the word, has, in the antient copies of Herodotus, been turned into Λ; and then the words, in two different dialects, are not very different.

Theſe great arbitrators compromiſed the matter between the contending parties, by making a match between the two royal families; and ſo reſtor'd peace and friendſhip. Aſtyages, the ſon of Cyaxares, king of Media, married Ariena, daughter of Halyattes, king of Lydia, of whom, a year after, was born Cyaxares, whom the prophet Daniel calls Darius the Mede. And in that laſt mention'd year, king Cyaxares gave his daughter Mandane in marriage to Cambyſes king of Perſia; of whom, the next year, was born the great Cyrus, the founder of the Perſian monarchy, whom the prophet Iſaiah foretold by name, that he ſhould reſtore the polity of the Jews, the city of Jeruſalem, and the temple, and return the ſacred veſſels of gold and ſilver, which Nebuchadnezzar had carried away, and put into his heathen temple at Babylon.

Thus

Thus ended this famous quarrel between the Medes and Lydians, thro' the timely event of a total ſolar eclipſe, made ſtill the more eminent, that it was calculated, and foretold to the Ionians by Thales of Miletus, at that time in the 37 year of his age. He was born of Phœnician parents; and there, no doubt, learned his knowlege in aſtronomy. He was the firſt, who brought this ſcience into Greece, and that 300 years after the pretended Chiron of the Argonauts.

It is an invincible argument, that he learned his art; for a whole life is not ſufficient, ſo to obſerve the motions of ſun and moon, as to be able to calculate an eclipſe.

This is the firſt eclipſe, which we have recorded in ſo circumſtantial a manner. Notwithſtanding all this, it is ſtrange to ſee, how the learned have erred about the true year of this memorable affair.

Pliny begins the miſtake, telling us, that it was the fourth year of the XLVIII Olympiad; whereas it was the fourth year of the XLIII. It is not unlikely, the numeral letter V is crept into the original. Clemens Alexandrinus makes it about the fiftieth Olympiad. Dr. Prideaux makes it 5 years too late; Archbiſhop Uſher 2 years. Sir Iſaac Newton gives us the true month and day, but aſſigns the 585 year, as Ricciolus.

I have deſigned the map here exhibited, from my friend Weaver's calculation (Fig. IX.), which will preſent us with a juſt notion of the whole affair. It is a projection of the moon's ſhade, as it paſſed over the earth's ſurface from 20 to 60 degrees of longitude eaſt from London; and from 25 to 50 degrees of north


A Scheme of the passage of the moons shade, in the total solar eclip
on friday may y^e 18.th the 603.d year before CHRIST. it put an end to y^e
Philos. Trans. Vol. XLVIII.
TAB. IX.
RVSSIA
Borysthenes r.
Tanais r.
Neister r.
SARM
SCYT
Colchis
Danube r.
THRACE
MACEDONIA
GRECE
EVXINE SEA
ARMENIA
Halys r.
Erzerum
Galatia
Cappadocia
Phrygia
Melas r.
Melitene
LYDIA
Cilicia
Caria
Lycia
Crete
XI
ASSYR
MARE MEDITER-
ANEVM
SYRIA
Tigris
Cyprus I.
Ir afa
Cyr ene
Jerusalem
Judœa
Euphrates
Barca
ARABIA
Eg ypt
LYBIA
Madianitœ
red
Nile r.
Sea
IX
Desart of Barca
ETHIO
20
25
30
35
40
45
50
25
30
35
40


hade, in the total solar eclipse predicted by Thales which happened
HRIST. it put an end to y^e war betwixt y^e Medes and Lydians.
40
45
50
55
60
ns. Vol. XLVIII.
TAB. IX.
p. 224.
Walga r.
Calmuc Tartary
Tanais r.
CIRCASSIA
SARMATIA
SCYTHIA
African
I
Colchis
Jaxartes r.
IBERIA
E SEA
CASPIAN
SEA
ARMENIA
Halys r.
Oxus r.
Albania
XII
Erzerum
docia
Hyr-
-cania
r.
Meliténe
MEDIA
ilicia
PARTHIA
XI
ASSYRIA
SYRIA
Tigris r.
SVSIANA
MOGVL
PERSIA
Jerusalem
Judœa
BABYLONIA
Euphrates r.
ARABIA
Madianitœ
PERSIAN
Gvlf
red
Sea
ETHIOPIA
W. Stukeley delin.
J. Mynde sc.
50
45
40
35
30
25

north latitude, with the hours, half-hours, and quarters of time, where vertical. This was on the 18 of May in the proleptic Julian ſtyle: in the year of the Julian period 4111, the 603 year before the vulgar æra of Chriſt.

The eclipſe was total 4 minutes and a half, where the battle was fought. The ſhade enters our map, in the deſert of Barca in Africa, ſoon after 9 o' clock in the morning. It traverſes the mediterranean ſea, and iſle of Cyprus; enters Aſia Minor at Cilicia, a little before 11; about half an hour after, it paſſes the city now called Erzerum; near which I ſuppoſe the battle was fought, as being at the boundary between the two kingdoms. It is between the river Halys, and the river Melas, on which was the antient city Melitene. The river Melas runs eaſtward into the Euphrates. At half an hour after 12, the ſhade enter'd upon the Caſpian ſea, and at 1 upon the Kalmuc Tartary.

We ſee here an authentic *parapegma* in antient hiſtory, deduced from aſtronomy: and we ſee a remarkable inſtance, brought about by Divine Providence, of a moſt furious war, terminated by the intervention of an eclipſe. But eclipſes, ſay we, are natural and neceſſary phænomena, conſequent to the eſtabliſhed motions of the celeſtial bodies. True; Providence order'd them at the beginning, as well as comets, and earthquakes, and the like portentous appearances, as antiquity rightly denominated them, and regarded them: but Providence did not thereby reſtrain its own power and authority, to render them at the ſame time of moral uſe. Providence can ſo over-rule the actions of us men, as to bring them to coincide with theſe fore-ordain'd and neceſ-

ſary motions, ſo as to prove himſelf the GOVERNOR both of the natural and moral world; tho' improv'd philoſophy has given us a juſter notion of theſe matters than the antients had. I wiſh our religious ſentiments may advance, in proportion to our improved philoſophy.

March 16, 1753.

Wm. Stukeley.

XXXIV. *A farther Account of the* Giant's Cauſeway *in the County of* Antrim *in* Ireland, *by the Rev.* Richard Pocock, *LL.D. Archdeacon of* Dublin, *and F. R. S.*

Read May 24, 1753.

IN a letter, which I wrote in 1747 to Martin Folkes, Eſq; Preſident of the Royal Society, which was read in January, and printed in the *Philoſophical Tranſactions* for that month, I obſerved, in relation to the Giant's Cauſeway, that there appeared in the Sea-cliffs three ſtrata of pillars between thirty and forty feet high, with ſtrata of a black rock between them; that the cauſeway itſelf was the loweſt of all theſe, extending in a point into the ſea; and that another is ſeen towards the top of the cliff.

Laſt ſummer I took another view of it; I went from Bally-Caſtle, which is about 10 miles to the eaſt of the Cauſeway. When I came two miles to the weſt of Bally-Caſtle, within leſs than a mile of Ballintoy, half a mile to the ſouth of the ſea-cliffs, and about a quarter to the ſouth of the road, I ſaw the ſame